

# SVLD™

Very Low Dose Rate Probe

## FEATURES

- $H^*(10)$  dose equivalent rate measurement from 10 nSv/h to 1 mSv/h (1  $\mu$ rem/h to 100 mrem/h)
- Best sensitivity to size ratio
- Belongs to the CSP family
- Calibration via PC software
- Extends existing CSP instrument's dose-rates to background measurement
- Plug and play
- Low power consumption
- ICRP60 compliant

## BENEFITS

- Offers maximum sensitivity in a compact size
- Quickly and accurately measures Very Low Dose equivalent rate
- Extends the application range of existing CSP instruments
- Reduces Total Cost of Ownership
- Does not saturate before significant dose equivalent rate (1 mSv/h – 100 mrem/h)

## DESCRIPTION

The SVLD probe for measurement of Very Low Dose equivalent rate is designed to be used with CSP™ meters such as Radiagem™, MIP 10 *Digital*, AVIOR® or Colibri®. Its CsI(Tl) detector with specific energy compensation (patent pending) makes it an ideal tool for differentiating background dose-rate starting from 10 nSv/h. Most portable dose equivalent rate instruments only estimate the background radiation exposure. The SVLD is designed to quickly and accurately measure very low dose equivalent rates near background using a lightweight CSP compatible probe. Unlike heavy and very large probes, the SVLD's small size can be carried easily by a user in the field. The SVLD probe not only measures very low dose-rates but does not saturate up to 1 mSv/h (100 mR/h) covering most daily Health Physics duties.

The SVLD is the perfect choice for dose-rate control at radiation area boundaries and daily dose-rate measurements outside of radiation areas like inter-building paths in public areas. It is also very useful for interdiction situations in crowded areas and can be deployed at gates or pathways – its small size and wireless capability, when coupled with a CSP-COM module, make it the perfect low visibility monitoring device.

Industry and medical users can quickly confirm presence of radioactive sources (medical radionuclides, waste, NORM) and easily set a safety perimeter based on accurate dose-rate measurements.

The SVLD is part of CANBERRA's innovative SMART Probe (CSP) family. It includes all key components of hardware circuitry (high voltage power supply, amplifier, discriminator, etc.) Additionally, the intelligence associated with controlling those components is located inside the probe. This includes control and storage of key parameters, settings, calibrations, probe ID, alarm settings (10 values for each unit to display with default setting), etc. Thus the probe is a fully integrated subsystem taking and transmitting the measurement to the instrument, which is used for display.

## SVLD | VERY LOW DOSE RATE PROBE

With high voltage and digitization of the data occurring within the probe rather than in the instrument, measurement quality is no longer dependent on external device quality (cable, host instrument). Moreover, a CSP is using a serial protocol to communicate with the host that can be an instrument or a PC.

Calibration and QA measurements can be performed directly with the probe, without using any instrument, by connecting the probe to a computer with CANBERRA Smart Probe Software (CSPS™), allowing your instruments to remain deployed in the field.

Once calibrated, the SVLD is ready to be used as a plug and play probe to start a QA measurement in rem/h with Radiagem 4000; or Sv/h with Radiagem 2000. SVLD connects to a CSP instrument either directly (allowing one hand usage) or via a CSP cable (available in various lengths). The SVLD is then connected, via CSP-COM communication module, to either Colibri (Bluetooth®) or host system via Ethernet and becomes a sub assembly of a larger system.

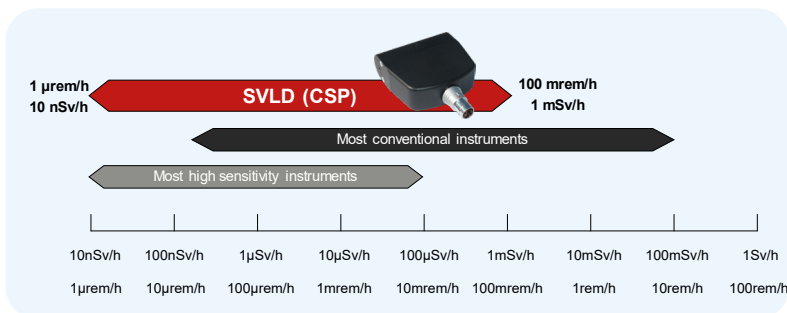
The SVLD probe is able to store up to 1000 data points from a data-logging procedure handled via the host instrument. These data are: index, date/time, measurement value, selected unit and counting time.

SVLD can be upgraded (probe's firmware) via CSPS, a USB cable and a PC.

Note: SVLD functionality is also available as a dedicated all in one instrument with Colibri-VLD (see Colibri specification sheet for further details).

## NUCLEAR CHARACTERISTICS

- Display units: Sv/h, Sv or rem/h, rem depending on meter connected, H\*(10) ambient gamma dose rate equivalent according to ICRP60
- Emitter: Gamma
- Detector: energy compensated CsI(Tl) scintillator
- Sensitivity: 70 c/s per  $\mu\text{Sv/h}$  ( $^{137}\text{Cs}$ )
- Measurement range: 10 nSv/h to 1 mSv/h (1  $\mu\text{rem/h}$  to 100 mrem/h)
- IEC approved range: 100 nSv/h to 1 mSv/h (10  $\mu\text{rem/h}$  to 100 mrem/h)
- IEC energy range: within  $\pm 40\%$  for Gamma from 59 keV to 1.5 MeV
- Background: ambient  $\leq 100$  nGy/h (10  $\mu\text{R/h}$ );  $< 5$  c/s ( $< 300$  cpm), typical = 3 c/s



## ERGONOMIC CHARACTERISTICS

- Display: provided by meter or host system
- Alarm setpoints: 10 values for each unit to display. Saved in probe memory. They can be changed with CSPS and PC. Default alarm threshold is chosen in a list by use of survey meter keypad.

## ELECTRICAL CHARACTERISTICS

- Power: +5 V supplied by host instrument (low voltage only)
- Consumption: 30 mA maximum

## MECHANICAL CHARACTERISTICS

- Housing: machined Delrin.
- Dimensions: length (with connector) x width x height: 104.4 x 80 x 26 mm (4.11 x 3.14 x 1 in.)
- Connector: lockable waterproof Fisher type
- Weight: 177 g (6.24 oz) without cable

## ENVIRONMENTAL CHARACTERISTICS

- Operating temperature: -10 °C to +45 °C (+14 to +113 °F)
- Storage temperature: -25 °C to +50 °C (-13 °F to 122 °F)
- Relative humidity: 40% to 95% at 35 °C
- Cleaning: housing easy to decontaminate
- Ingress protection: IP55

## NORM

- CEM: conform
- CE: meets CE requirements
- IEC: designed to meet IEC 60846:2009
- ANSI: designed to meet ANSI N42.17A

## ORDERING REFERENCES

- SVLD: NOM006371 (EM86790)
- CSP Cable (1.5 m – 4.9 ft): NOM006282 (EM77336)
- CSP Cable (10 m – 32.8 ft): NOM006365 (EM85920)
- CSP Cable (20 m – 65.6 ft): NOM006300 (EM80653)
- CSP-PC USB cable: NOM006288 (EM78466)
- CALIBRATION/SETUP SOFTWARE (CSPS):
  - CSPS-F: NOM006289 (EM78468)
  - CSPS-R: NOM006298 (EM80642)
  - CSPS-E: NOM006299 (EM80643)



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